AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior version and listings of claims in the application:

Listing of Claims:

1.   (Currently amended) A method of recording ~~an amount of~~ online time of a user in a broadband access server, comprising the steps of:

a)   setting an inner time interval ~~for monitoring~~ at which a data flow of the user is monitored in the broadband access server, an outer time interval ~~for detecting~~ at which an IDLE state of the user is detected outside the broadband access server and a flow threshold ~~for counting the data flow of the user in the broadband access server~~, and the inner time interval being shorter than the outer time interval;

b)   ~~providing a fee calculation~~ authenticating the user trying to access to the broadband access server, and informing a charging server in communication with the broadband access server ~~for recording the amount of online time of the user and starting recording the online time of the user by the fee calculation service when receiving an instruction of the broadband access server after the user accesses the broadband access server and is authenticated successfully~~ to start charging the user if the user is successfully authenticated;

c)   establishing in the broadband access server a circular link list having a number of elements ~~to~~ for the user ~~for recording~~ to record the data flow of the user, wherein ~~the~~ a target element number of the circular link list is ~~the number~~ a result of ~~times of~~ dividing the outer time interval ~~to~~ by the inner time interval;

d)   ~~repeatedly~~ detecting ~~the data flow of the user~~ in the broadband access server the data flow of the user and obtaining a current element number of the circular link list for the user at ~~each~~ inner time interval, and ~~recording the detected data flow as a content of a head pointer of the circular link list in turn, until a difference between the newly detected data flow and the content recorded in the head pointer is not more than the flow threshold~~ updating the circular link list for the user until the current element number of the circular link list is equal to the target element number of the circular link list;

e)   deciding whether the user is in the IDLE state ~~in the broadband access server when~~ by comparing the difference between the newly detected data flow and the content

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recorded in the head pointer is less than with the flow threshold; and

f) stopping recording the online time of the user by the fee calculation service according to an instruction of the broadband access server. informing the charging server to stop charging the user if the user is decided in the IDLE state.

2. (Currently amended) The method of claim 1, characterized in that, when the circular link list is not fully filled, step d) further comprises the steps of:

comparing the current element number of the circular link list with the target element number of the circular link list, if the current element number of the circular link list is less than the target element number of the circular link list, then saving the newly detected data flow as the content of the head pointer, and moving the head and tail pointers down a position in a head pointer of the circular link list, adding an element to each inner time interval and pointing a tail pointer of the circular link list to the newly added element.

3. (Currently amended) The method as claimed in claim 1, characterized in that, when the circular link list is fully filled, step d e) further comprises the steps of:

examining comparing the difference between the newly detected data flow and the content of recorded in the head pointer element, when with the flow threshold, if the difference between the newly detected data flow and the content of the head pointer exceeds the flow threshold, then moving the head pointer and the tail pointers pointer down a one position in the circular link list, and saving the newly detected data flow as the content of the head tail pointer, otherwise, deciding the user is in the IDLE state.

4. (Canceled).

5. (Withdrawn) The method of claim 1, characterized in that the method further comprises the step of setting the user in an unauthenticated state in step e).

6. (Canceled).

7. (Currently amended): The method of claim 1, characterized in that the time for the fee

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~~calculation~~ charging server to stop recording the online time of the user is immediately before an outer time interval corresponding to the inner time interval when the IDLE state is detected.

8.   (Previously amended) The method of claim 1, characterized in that the inner time interval is about 30 seconds and/or the outer time interval is about 5 minutes.

9-12.   (Canceled).